Clinical Pathology 2008

Please answer the following questions:

1- A dog 5 year old male was presented with the following history: Sever abdominal pain, Vomited twice yesterday, Dehydration and weight loss. Laboratory data:

Tot. Protein	8.15 g/dl	H
Albumin	4.95 g/dl	H
ALT	115 IU/L	H
AST	75 IU/L	H
S. ALP	65 IU/L	H
GGT	85 U/L	H
CK	51 IU/L	
BUN	41 mg/dL	H
Creatinine	2.1mg/dL	H
Calcium	6.8 mg/dL	L
Phosphorous	4.6 mg/dL	
Sodium	141 mmo/L	
Potassium	4.2 mmo/L	
Chloride	114 mmo/L	
Amylse	1160 U/L	H
Lipase	1200 U/L	H
Bl. Gas analysis –pH HCO3 - PCO2	7.48 31.5 mEq/L 27.4 mmHg	H H
Urinalysis (Voided) Amber, clear - Sp.gr - pH	 1.035 6.3	
Random blood glucose	365 mg/dl	H
Protein	Nil	
Other chemistries	nagative	

a- Do the results indicate that this animal has cholestasis?Yes or no? Why?
b- Is the animal has hepatocellular necrosis? Yes or no? Explain.
c- Is the animal has a clinical evidence of acute necrotic pancreatitis? Why?
d- Is renal tubular function compromised? Explain?
e- Do the results indicate that this animal has muscle disease? Why or why not?
f- Explain the acid base balance disorder.
g- What is your final diagnosis.

2- <u>Give account about interpretation of:</u>

a- Hyper osmolarity.
b- Hyper lipemia in nephritic and pancreatic diseases.
c- Isostthenuria and steatorrhea in dog.

3- Write about differential laboratory diagnosis of:

a- Primary polyuria a secondary polydipsia cat.
b- Different types of jaundice in horse.
c- Ascites and urinary bladder rupture in calve.

4- <u>Give full account on:</u>

a- Microalbuminuria in dog.
b- Cylindroids and telescoped urinary sediment.
c- Positive urine glucose with stripe method without hyperglycemia.

Clinical Pathology 2010

Please answer the following questions :

I- A 12 years old male dog is submitted to your clinic with the Complain that he is listless is not eating and polyuria. Laboratory data:

Tot. Protein	7.6 g/dl	
Albumin	2.2 g/dl	L
AST	64 IU/L	H
ALT	92 IU/L	H
GG T	12 IU/L	
SAP	125 IU/L	
Glucose	95 mEq/L	
CK	21 IU/L	
Potassium	3.8 mEq/L	
Chloride	114 mEq/L	
BUN	28 mg/dL	H
Creatinine	2.4 mEq/L	H
Calcium	10.2 mg/dL	
Phosphorus	4.3 mEq/L	
Bl. Gas analysis: -HCO3	16.5 mEq/L	L
-PCO2	28.1 mmHg	
-pH	7.21	L
Urinalysis (Voided):		
Yellow color -Sp.gr	1.035	
-PH	6.3	
- Protein	+ve	
-Glucose	+ve	
- Ketone	Nil	
-Occult blood	-ve	
Sediment:		
- RBCs	1-3/hpf	
-WBCs	0-2/hpf	

1- Does this animal has hepatocellular necrosis? Why?
2- Ss their glomerular or tubular problem ? Explain?
3- Is there is acid base balance disorder ? Explain?
4- Do the result indicate that the animal has muscle disease? Why or why not?
5- what is your final diagnosis?

II-Write what you know about:

a- laboratory diagnosis of dehydration.

b- relation between osmolality , hyponatremia and hyperglycemia.

c- disturbance of blood chloride level.

d- normal A/C ratio.

III- Give an account on:

a- Interpretation of lipoprotienemia.

b- Significant laboratory diagnosis of glycated proteins, SD arginase.

c- Increase in direct bilirubin in non hemolytic cases.

d- Increase conjugated bilirubin without elevation of ALT, AST or ALP.

IV- Discuss the following:

a- fat absorption test.

b- laboratory finding of diabetes mellitus arise from insulin resistance in dog.

c- Telescoped urinary sediment.

d- Anti cardiolipin antibodies and ANCA.

Clinical Pathology 2011

1- Write short notes about:

a. Hypoalbuminemia.

b. Hyperkalemia.

c. Secondary hyperlipemia.

d. Plasma turbidity test.

2- Discuss briefly:

a. Isoenzymes.

b. Enzymes indication cholestasis.

c. Dublin-Johnson syndrome.

3- Write what do you knew about:

a. Titration metabolic acidosis.

b. Indication of water deprivation test.

c. Specific tubular clearance test.

4- Diagnsis of the following ceases:

a. Normal A/G ratio with hyperproteinemia.

b. Acidic urine with alkalosis.

c. Normal glycemia with positive urine glucose.

d. Normal ALT and CK blood level with elevation AST.

e. Dog has all types of casts in addition to red cells, white cells and oval fat bodies.

Clinical Pathology 2012

1- A 5-year old Hereford cow was presented with a complaints that she has been passing red urine with clumps of red, had a poor appetite and is losing weight. Physical examination revealed that the animal was thin and anorexic and had hematuria.

Laboratory data:

Blood chemistry		**Urine analysis**	
Tot.protein	6.5g/dl	Red and cloudy	
Albumin	3.0g/dl	Sp.G	1.041
Globulin	3.5g/dl	pH	8.5
Fibrinogen	800mg/dl (H)	Protein (dipstick)	3+
AST	82 Iu/L	Glucose	Negative
SAT	100 IU/L	Ketone	Negative
BUN	20 mg/dl	Blood	3+
Creatinine	3.2 mg/dl (H)	Bilirubin	Nil
Calcium	4.45 mg/dl (L)		
Phosphorus	9.15 mg/dl (H)	**sediment**	
Total Bilirubin		WBC/HPF	80-100 (H)
		RBC/HPF	More 100 (H)
		Casts	Nil
		Crystal	None seen
		Bacteria	++++ve

1- What is the significance of the elevated fibrinogen?

2- What do the urine analysis results indicate?

3- Is renal tubular function compromised? Explain.

4- Is glomerular function compromised? Explain.

5- what is the significance of the serum Creatinine level?

6- Why is BUN normal in this animal while Creatinine is elevated?

7- Why the cast is not present?

8- What is your final diagnosis?

2- Mention the clinic pathological findings of:

a) Obstructive jaundice in horse.

b) Dehydration in cow.

c) Acute necrotic pancreatitis.

d) Compensated metabolic acidosis.

3- Give the diagnostic significance:

a) BSP retention test.

b) Creatinine clearance test.

c) Van Den Bergh reaction.

d) Vasopressin test.

4- Write the clinical significance:

a) Hyperkalemia.

b) Acute phase protein.

c) Hyponatremia.

d) Secondary hyperlipemia.

Clinical Pathology 2013

A. 20 year old mare presented to your clinic with the complication of frequent urination, increased water intake and weight loss. Physical examination revealed that the animals was thin, 5% dehydrated and exhibited polyuria and polydipsia

Laboratory data

Blood chemistry		Urine analysis (Catheter)	
Total protein	9.2g/dl	Yellow and clear	
Albumin	2.1g/dl	Sp.G	1.011
Globulin	5.8 g/dl	pH	7.6
A/G ratio	.63	Protein	++ve
AST	155 IU/L	Blood	-ve
SD	42 IU/L		
GD	51 IU/L	**Sediment**	
GGT	24 IU/L	RBCs/HPF	3 – 5
BUN	74 mg/dl (H)	Crystal	-ve
Creatine	4.5 mg/dl (H)	WBCs/HPF	2 – 4
Calcium	96 mg/dl (H)		
Phosphorus	2.5 mg/dl (L)		
T.Bili	1.1 mg/dl (H)		
Indirect bili	.9 mg/dl (H)		

1. Does this animal has a clinical evidence of liver disease , why , interpret the bilirubin results , if the problem in dog what the blood bilirubin would be
2. Why is the animal hypercalcemic and hypophosphatemic
3. If the problem in dog what would be the blood calcium and phosphorus , explain
4. If the problem is in cow what the urea level would be explain
5. Interpret the urinalysis
6. What is your final diagnosis

B. **Write short notes on**

1. Steatarrhea and createorrhea
2. SIADH
3. Secondary hyperlipoproteinemia
4. Laboratory finding of diabetes mellitus

C. **What do you know about**

1. HbA1c and biliprotein
2. Isoenzymes and enzyme activity
3. Increase indirect bilirubin in non-hemolytic cases

D. **Give an account on**

1. Diagnostic importance of ALT and arginase enzymes
2. Paradoxical aciduria
3. Indication of vasopressin test

Clinical Pathology 2014

A. Dog 3 year old was presented to you with the following history emaciation , gingival ulcer , vomiting , polyuria and polydipsia

Laboratory data

Blood chemistry		Urine analysis (Catheter)	
Total protein	7.1 g/dl	Amber and clear	
Albumin	3.7 g/dl	Sp.G	1.012
ALT	15 IU/L	pH	6.1
AST	72 IU/L	Other chemistry	negative
Glucose	108 mg/dl		
BUN	283 mg/dl		
Creatine	9.7 mg/dl	**Blood gas analysis**	
Calcium	8.8 mg/dl	HCO_3	18 mEq/l
Phosphorus	12.5 mg/dl	PH	7.2
Sodium	136 mmol/l	PCO_2	23.1 mEq/
Potassium	5.5 mmol/l		
Chloride	94 mmol/l		
Anion gap	28.9 mmol/l		

1. Does this animal has evidence of renal disease
2. Why is the animal hypocalcemic and hyperphophatemic , if the problem in horse what the blood calcium and phosphate level , explain
3. Is there is acid base balance disorders
4. Interpret the other blood chemistry
5. What is your final diagnosis

B. Discuss the following

1. Hyponatremia in case of hyperglycemia and lipemia
2. Diagnostic importance of 5-ND and ALP
3. Increase indirect bilirubin in non-hemolytic cases
4. Water deprivation test

C. Give an account on

1. Hyperlipemia
2. Isothenuria
3. Laboratory diagnosis of dehydration
4. Serum fructosamin

Clinical Pathology 2015

A. Mare 18 year old is brought to you with the complaint of frequent voluminous urination , increase water intake and weight loss. Physical finding revealed that the animal was thin dehydrated and exhibited polyuria and polydipsia

Laboratory data

Blood chemistry		Urine analysis (Catheter)	
Total protein	8.4 g/dl	Yellow and clear	
Albumin	3 g/dl	Sp.G	1.011
Globulin	5.1 g/dl	pH	7.0
A/G ratio	.63	Protein	+2
AST	155 IU/L	Blood	NIL
SD	42 IU/L		
GD	18 IU/L	**Sediment**	
GGT	24 IU/L	RBCs/HPF	3 – 4
BUN	74 mg/dl (H)	WBCs/HPF	3 – 5
Creatine	4.5 mg/dl (H)		
Calcium	14.6 mg/dl (H)		
Phosphorus	2.5 mg/dl (L)		
T.Bili	1.1 mg/dl (H)		
Indirect bili	0.9 mg/dl (H)		

1. Does this animal has a clinical evidence of renal disease
2. Does the animal has hepatocellular damage, why, interpret the bilirubin results if this problem in dogs what the blood bilirubin level. explain
3. Why is the animal hypercalcemic and hypophosphatemic
4. If the problem in dog what would be the blood calcium and phosphorus , explain
5. If the problem is in cow what the urea level would be explain
6. What is your diagnosis

B. What do you know about

1. Lipoprotein (definition , classification , lipid profile in case of risk patient)
2. Enzyme specificity and isoenzymes (examples)
3. Diagnostic importance of glycated proteins
4. Interpretation of fishburg concentrate test

C. Discuss the following

1. Blood gas analysis and the compensatory mechanism in case of metabolic acidosis
2. Causes of hereditary increase of direct bilirubin
3. Laboratory finding of diabetes mellitus
4. Ccr test in domestic animals